

REMARKS

Claims 1-4 have been amended; claims 5-14 have been cancelled; and claims 15-20 have been added.

Claims 1-4 were rejected under the second paragraph of 35 USC § 112. It is respectfully contended that amended claims 1-4 are not indefinite.

Claims 1-4 were rejected under 35 USC § 103(a) as being unpatentable over Daoud in view of Rochilgo et al. or Lee. It is respectfully contended that claim 1, as well as dependent claims 2-4 and 15-20, are patentable over this combination of references.

Daoud describes a separation of wort from mash. This process is, however, the old classical separation process which actually uses very coarse materials, namely particles in the range of 0.25 mm to 2 mm in size (see Col. 4, line 41 of Daoud). The present invention is based on the discovery that is possible to operate in the mashing process with very finely ground mould flowers, and for this purpose, a very fine retention rate filter is used, as now defined in claim 1. Such a fine filter would normally be viewed as inefficient since it would be blocked very quickly with the fine flower, because the mere flow of the mash across the filter as shown by Daoud using only the pump pressure for the flow control would not work.

Rochilgo et al. describes a dynamic cross-flow apparatus. However, this reference is entirely silent and gives not the slightest direction for the claimed process. In particular, Rochilgo et al. in Col. 16, line 67 makes it clear that the shopping list of processes for which this apparatus is useful is strictly one addressing different fluids, in particular fluids in which cell size materials play a role. Thus, Rochilgo et al. addresses itself to product streams from beer making while the present invention is directed to a mashing process which generates a fluid (wort) which goes to beer making. This wort has not yet been of course subject to any fermentation! Therefore, Rochilgo et al. does not contain any hint toward the process of this invention. In fact, it points into a different direction, while Daoud mentions filter pore sizes that are more than one magnitude above those here suggested, see in particular lines 63-67.

Only after combining dynamic cross-flow technology with a very small pore-size filter was it possible to achieve a process in which very finely grained mould flowers can be used in the mashing process and can efficiently then be separated into wort and mash remainder. The significant advantage achieved by the process is that the product transition from the mash particles into the wort is accelerated and the mashing time is reduced. In addition, the process also removes high molecular weight ingredients from the worts and from the beer making fermentation process. Further processing is thereby simplified.

The prior art nowhere suggests the combination of dynamic cross-flow technology with a very fine pore-sized filter material in a mashing process. This combination as now

In re Appln. of LOTZ et al.
Application No. 09/837,755

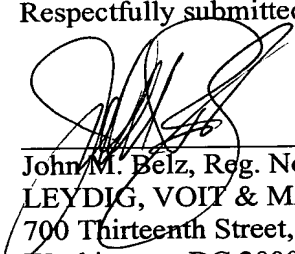
claimed defines a very important contribution to the mashing process technology and is thus submitted not to be rendered obvious by the prior art.

Lee does not add anything to this evaluation. Lee discloses a self-cleaning fluid treatment system with rotating cartridges and the scrubbing of solids from these cartridges. The references to beer making related always to materials such as yeast, slurries and beer tests sample (Col. 1, line 60) or the injection and dissolution of gaseous materials into liquid, such as beer and ale (Col. 2, lines 11 and 12) and yeast cell removal using aging drop beer (the example in Col. 30). None of these examples relate to mash or any material that is remotely similar with mash and the specific problems in the wort separation step. Thus, the claimed invention is submitted to be patentable over Lee in itself and in any combination of Lee with the other references. Lee simply does not relate in any matter to the mashing process herein claimed.

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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Amendment or ROA - Regular (Revised 5/1/03)